

224. The position of die block **226** is controlled by a fixed pressure bridge **230** which is adapted to threadedly receive at least one, and preferably at least two, pressure screws **232**. Pressure screws **232** are actuated with respect to pressure bridge **230** until ends **240** of pressure screw **232** contact roller block **226**. Pressure screws **232** exert radial forces on roller block **226**, which causes pressure rollers **228** to likewise apply forces to die bearers **224** which decreases the spacing or clearance between cutting die **218** and base roller **212**, that is identified in **FIG. 3** as "CL." When properly adjusted, the height of cutters **238**, or the amount of protrusion cutters **238** radially outwardly extend from the surface of cutting die **218**, identified in **FIG. 3** as "CH" for cutter height, subtracted from spacing CL should substantially equal the thickness of carrier paper **202** of tape **206** (**FIGS. 4 and 8**) so that cutters **238** cut the profile of label **120** into film **204** of tape **206** of roll **200**. This is stated symbolically in equation 1, where "T" is the thickness of carrier layer **202** (**FIG. 8**), although it is, of course, realized that cutters **238** may extend or cut partially into carrier layer **202** without cutting through carrier layer **202**.

$$CL-CH=T$$

[1]

[0032] To ensure the proper adjustment setting is maintained, a lock nut **234**, having a handle **236** for ease of use, is actuated to forcefully abut lock nut **234** against pressure bridge **230** to prevent pressure screw **232** from actuating with respect to pressure bridge **230**.

[0033] Referring to **FIGS. 4-7**, label **120** comprises a layer of film material **204** of preselected thickness for any material preferably having sufficient cross-directional tear properties so that the spine **124** tears along microperforations **128**, since it is highly preferred to maintain the orientation of label **120**, and microperforations **128**, with respect to tape **206** (**FIG. 4**). Known film layer constructions have lacked sufficient cross-directional tear properties to permit removal of the spine in a contiguous piece. By maintaining this orientation, label **120** is compatible with existing packaging equipment. A preferred label material is polyethylene having a thickness of about 3.4 mils (0.0034 inches) with a backing or release layer of siliconized polyester with a silicon release coating, the release layer having a thickness of about 1 mil (0.001 inches). Although other label materials may be configured for use, polyethylene material in combination with the sized microperforations, which are described in further detail below, provide superior results. Applicant has discovered that the preferred material still functions as desired, even when the product, that is, the container housing an item to which the label is affixed, is subjected to an extended shelf life prior to opening the container. Stated another way, this combination of label material and microperforations is resistant to material embrittlement.

[0034] In the case of CD jewel boxes, microperforations **128** are separated by a gap indicated by "G" which substantially corresponds to the distance between the edges of side portion **116** (see **FIGS. 2 and 5**). In this arrangement, upon removal of spine **124** by tearing along microperforations **128**, the resulting edges of the segments **122** adjacent spine **124** which remain attached to container **10** are clean, unobtrusive and have a professional appearance. In other words, it is not necessary to remove the remaining segments **122** from container **10**. In contrast, even specially configured tools which may be employed to open CD containers using prior art labels by introducing a slit in the spine, at best,

leave protruding flaps of spine material which typically cannot be removed cleanly short of completely removing the label material.

[0035] Preferably, microperforations **128** comprise a series of spaced slits **132** or cuts of uniform length between ties **134** of uniform length, which ties are typically uncut lengths of label material. However, it is not necessary that either slits **132** or ties **134** be of uniform length. Additionally, it is not necessary that slits **132** be formed entirely through the thickness of film **204**, and that ties **134** may be of reduced thickness as compared to the thickness of film **204**. In combination with the polyethylene film label material previously discussed, the microperforations **128** preferably includes slits **132** of about 34 mils (0.034 inches) separated by ties **134** of about 8 mils (0.008 inches). To assist the tearing of spine **124** along microperforations **128**, preferably each of a pair of junctions **140** located along microperforations **128** adjacent tab **130** begin the microperforation sequence of alternating slits **132** and ties **134** with a slit. In an alternate embodiment (not shown), tab **130** may protrude from each end of spine **124**.

[0036] While one example of a material and microperforation configuration is provided above, it may be possible that any preselected label thickness may be used. Additionally, the label may be of non-uniform thickness or have multiple thicknesses, and for any material when combined with compatibly configured microperforations, which may or may not be similarly sized as previously discussed, may tear along the microperforations. Stated another way, although a preferred embodiment identifies a material thickness of 0.0034 inch, it is contemplated that virtually any label material thickness may be used with the present invention so long as the spine is removable as previously discussed. However, it is also realized that when the thickness of the label reaches a certain thickness threshold dimension, such as about 0.25 inch or a predetermined ratio of the thickness of the label material to the thickness of the container such as about 0.25, reducing the number of containers that may be placed inside a shipping or display area, such material thickness, while possible to achieve and contemplated by the present invention, may be commercially unfeasible.

[0037] Optionally, for a label having a single tab **130**, substantially along the end of spine **124** opposite tab **130** is an extended tie **136**, measuring about 50 mils (0.050 inches) for the specific combination of material and microperforations **128**. Upon removing spine **124**, as previously discussed above, having extended tie **136**, material from label segments **122** adjacent the extended tie **136** does not sever cleanly, but plastically distorts at least a portion of the segments **122**, providing evidence of tempering. It is also contemplated that this plastically distorted material may change color with respect to the label material as applied onto the container, providing more pronounced visual evidence of tampering. Of course, it is understood by those having skill in the art that once spine **124** is removed, it cannot be replaced.

[0038] Although primarily for manufacturing convenience, the outer edges of label segments **122** may include a nonlinear profile **123** or outermost edge, which permits more uniform material forming loads on the cutting dies **218** during operation of die assembly **210**. Referring back to